

What is Claimed is:

1. A method for reducing acidic contamination on a process wafer following a plasma etching process comprising the steps of:

a providing ~~a permanent magnet~~ ^{an} ambient controlled heating chamber for accepting transfer of a process wafer under controlled ambient conditions;

transferring the process wafer to the heating chamber under controlled ambient conditions following plasma etching of the process wafer;

providing a heat exchange surface within the heating chamber for mounting the process wafer in heat exchange relationship thereto;

mounting the process wafer on a heat exchange surface contained within the heating chamber;

heating the process wafer to a temperature sufficient to vaporize an acidic residue thereon to form acidic vapors; and

removing the acidic vapors from the heating chamber.

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2. The method of claim 1, wherein the step removing the acidic vapors is carried out simultaneously with the step of heating the process wafer.

3. The method of claim 2, wherein the steps of heating the process wafer and removing the acidic vapor are carried out for a period of time sufficient to remove from about 50 percent to about 100 percent of the acidic residue.

4. The method of claim 1, wherein the step of transferring the process wafer to the heating chamber is carried out prior to transferring the process wafer to an unloading chamber for unloading the process wafer.

5. The method of claim 1, wherein the process wafer is heated within a temperature range of about 75°C to about 100°C.

6. The method of claim 5, wherein the ambient pressure within the heating chamber is maintained within a range of 10 milliTorr to 500 milliTorr.

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8. The method of claim 1, wherein the heat exchange surface is supplied with a heat exchange fluid.

10. The method of claim 9, wherein the heat exchanger is provided with means for sensing a fluid flow rate and means for sensing a temperature.

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12. The method of claim 1, wherein the step of transferring the process wafer to the heating chamber is effectuated by a means for remotely manipulating the process wafer under controlled ambient conditions.

13. The method of claim 1, wherein the acidic residue is selected from the group consisting of HBr , HCl and HF.

14. A heating chamber system for reducing acidic contamination on a process wafer following a plasma etching process comprising:

an ambient controlled heating chamber for accepting transfer of a process wafer under controlled ambient conditions;

a means for controlling an ambient within the heating chamber including a pressure;

a heat exchange surface disposed within the heating chamber for mounting the process wafer in heat exchange relationship;

a heat exchanger disposed externally to the heating chamber in fluid communication with the heat exchange surface;

a fluid communication flow path between the heat exchanger and the heat exchange surface;

a means for sensing a fluid flow disposed within the fluid communication flow path between the heat exchanger and the heat exchange surface;

a means for sensing a fluid temperature disposed within the fluid communication flow path between the heat exchanger and the heat exchange surface; and

a means for pumping a fluid flow disposed within the fluid communication flow path between the heat exchanger and the heat exchange surface.

15. The heating system of claim 14, further comprising a controller in electronic communication with at least the means for sensing a fluid flow.

16. The heating system of claim 14, further comprising a controller in electronic communication with at least the means for sensing a fluid temperature.

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in electronic
a fluid flow.

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